THE GENUS MYZODIUM WITH THE DESCRIPTION OF M. KNOWLTONI, NEW SPECIES (HOMOPTERA: APHIDIDAE)[1]

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ABSTRACT—The genus *Myzodium* presently includes only 2 species, *M. modestum* (Hottes) and *M.* **knowltoni** Smith and Robinson, new species. There is a key for the apterous viviparae and descriptions are given for the apterous and alate viviparae of both species.

Myzodium Börner

Börner (1950a:11) described *Myzodes* (*Myzodium*) *rabeleri* n. sp. and designated it as the type of the new subgenus. Later (1952a:121), he raised *Myzodium* to generic rank and indicated that *M. modestum* (Hottes) (*Carolinaia modesta* Hottes, 1926b:117) was closely related to *M. rabeleri.* He also placed *Myzodes* (*Myzodium*) *brevirostre* Börner (1950a:11) in *Myzodium.* Hille Ris Lambers (1952b:15) stated that *Myzodes rabeleri* Börner "can hardly be anything but this species (*Carolinaia modestus* Hottes), also, *M.* (*Myzodium*) *brevirostris* Börner 1950 might be the same species." Heinze (1960a:818) retained *Myzodium brevirostris* Börner as a distinct species. Stroyan (1966a:112) placed *brevirostris* Börner in *Dysaphis.* Remaudière (1952a:242) described *Myzodium lagarriguei* but this species is now placed in *Ericaphis* (Hille Ris Lambers, 1955a:9; Stroyan, 1957b:323; and Prior and Stroyan, 1960a:283).

We have not seen all of the above species but we are accepting the opinions of the various authors. Thus, *Myzodium* presently includes only *M. modestum* and *M. knowltoni*, n. sp.

Myzodium is characterized as follows. Apterae without secondary rhinaria. Alates with secondary rhinaria scattered irregularly on antennal segments III, IV and V. Vertex of aptera widely W-shaped, with a distinct small central protuberance. Head, antennal segments I and II rugose. Antennal segments III–VI, coxae, femora and siphunculi strongly imbricated. Tarsal chaetotaxy, 3-3-2. Cauda shield-shaped.

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Fig. 1. *Myzodium knowltoni*, n. sp., apterous vivipara.

Key to Apterous Viviparae

1. Dorsum of abdomen sclerotic, rugose ..... *M. modestum* (Hottes)
— Dorsum of abdomen not sclerotic, sometimes appearing rugose on sides because of reticulations ..... *M. knowltoni* Smith and Robinson

Myzodium knowltoni Smith and Robinson, new species
fig. 1

Apterous Viviparae: Color of cleared specimens not distinctive, thorax and abdomen pale, with head, siphunculi, cauda and appendages slightly darker.

Much variation among specimens in body size. Body length (not including cauda), 1.16[2] (0.88–1.74). Frontal tubercles moderately produced, divergent,

[2] All measurements in millimeters. The measurement before the parentheses is that of the holotype or lectotype.

covered by small blunt scales or nodules. Antennal segment I almost as rough as head, II less rough, remainder of antennal segments imbricated throughout. Setae on head and antennal segments sparse, blunt and minute, those on III not more than 0.005 long. Antennae 6-segmented, shorter than body, 0.72–1.26 long. Length of antennal segments: III, 0.21 (0.16–0.31); IV, 0.15 (0.10–0.21); V, 0.12 (0.09–0.17); VI, 0.09 (0.07–0.12) + 0.24 (0.17–0.31). Secondary rhinaria absent. Rostrum reaching beyond metacoxae; rostral IV + V, 0.12 (0.11–0.14) long with usually 2, occasionally 4 setae in addition to those at the apex.

Thorax and abdomen strongly and coarsely reticulate dorsally under high magnification. Length of metatibiae, 0.55 (0.41–0.76). Metatarsomere II, 0.075 (0.06–0.09).

Siphunculi, 0.25 (0.20–0.37) long, tapering from base to just before apex, then widening to a strong flange; diameter at base 1.5–2.0 times narrowest diameter of siphunculi. Siphunculi with strong, coarse imbrications. Cauda, 0.09 (0.07–0.10) long, shield-shaped, with usually 1 dorsal preapical and 2 pairs of lateral setae.

Alate Viviparae (11 specimens): Color of cleared specimen: head, thorax, antennal segments beyond base of III, brown; antennal segments I, II and base of III, pale. Abdomen pale with faint, brown, dorsal transverse bands on segments III–VII. Bands on abdominal segments may be coalesced. Siphunculi and tip of cauda darker.

Body length (not including cauda), 1.40–2.09. Frontal tubercles moderately produced and divergent, covered with small scales or nodules, but noticeably less rough than head. Antennal segments I and II scaly, remainder of antennal segments imbricated throughout. Setae on head and antennal segments sparse, blunt, minute; those on III not more than 0.005 long. Antennae 6-segmented, shorter than body (1.25 long). Length of antennal segments: III, 0.35–0.44; IV, 0.19–0.32; V, 0.16–0.25; VI, 0.11–0.14 + 0.29–0.39. Secondary rhinaria on III, 20–35; IV, 6–14; V, 0–6. Rostral segments IV + V, 0.12–0.15 long, with 2–4 setae in addition to those at the apex. Length of metatibiae, 0.75–1.01, of metatarsomere II, 0.08–0.10. Wings hyaline, media twice-branched. Siphunculi, 0.25–0.30 long, slightly tapering, but more cylindrical than in apterous viviparae, with strong flange, and coarsely imbricated. Cauda, 0.09–0.12 long, shield-shaped, with 1 dorsal preapical and 2–3 pairs of lateral setae. Abdomen smooth dorsally, lateral sclerites slightly scaly.

Collections: All of the specimens of *M. knowltoni* were collected by placing samples of "moss" in a modified Berlese funnel and capturing the specimens in alcohol when they left the "moss." *Myzodium knowltoni* has not been observed feeding on moss. All samples were collected in Logan Canyon, Utah. Tony Grove Canyon used to be known as part of Logan Canyon.

Types: Holotype: apterous viviparous female, Logan Canyon, Utah, 12 August 1962 (Coll. K62-70, 1 slide G. F. Knowlton Coll.) deposited in the United States National Museum. Paratypes: All from areas in Logan Canyon. Tony Grove Creek, 5 August 1972 (2 slides, G. F. Knowlton and R. K. Casier Coll.), 6 August 1973 (2 slides, G. F. Knowlton Coll.), Tony Grove Canyon, 21 August 1974 (1 slide, Coll.

Fig. 2. *Myzodium modestum* (Hottes), apterous vivipara.

No. 74-52, and 5 slides, Coll. 74-53, G. F. Knowlton and C. F. Smith Coll.).

Logan Cave, 9 September 1974 (4 slides, Coll. K74-3; 9 slides, Coll. No. K74-4; 10 slides, Coll. No. K74-5, G. F. Knowlton Coll.); 10 September 1974 (2 slides, Coll. No. K74-23, G. F. Knowlton Coll.). Spring Hollow, 20 September, 1974 (Coll. No. K74-27, 3 slides, Coll. No. K74-29, 1 slide G. F. Knowlton Coll.).

Paratype slides deposited in the collections of the United States National Museum, the Canadian National Collection, A. Grant Robinson, George F. Knowlton, North Carolina State University at Raleigh and Clyde F. Smith.

Comments: *Myzodium knowltoni* is similar to *M. modestum*

(Hottes), but in *modestum* the thorax and abdomen of the apterous viviparae are sclerotized dorsally, and the siphunculi are very black (fig. 2). In *knowltoni* the abdomen is reticulated dorsally and the siphunculi are paler. Also, there are differences in the shape of the siphunculi and cauda (see fig. 1 and 2). This species is named in honor of G. F. Knowlton, Professor Emeritus of Entomology, Utah State University and an indefatigable collector of aphids.

Myzodium modestum (Hottes)

Carolinaia modesta Hottes 1926b:117.
Myzodes (*Myzodium*) *rabeleri* Börner 1950a:11.

Apterous Viviparae: Color of cleared specimen: Head, thorax, dorsum of abdomen and all appendages dusky to dark. Older specimens very dark on dorsum of the abdomen.

Much variation among specimens in body size. Body length (not including cauda), 1.2–1.65. Frontal tubercules moderately produced and divergent, covered by small blunt scales or nodules. Antennal segments I and II almost as rough as head. Remainder of antennal segments imbricated throughout. Setae on head and antennal segments sparse, acute to slightly blunt and minute. Those on III not more than 0.008 long. Antennae 6-segmented. Length of antennal segments III, 0.27 (0.18–0.27); IV, 0.14 (0.12–0.16); V, 0.16 (0.13–0.16); VI, 0.10 (0.09–0.11) + 0.29 (0.24–0.32). Secondary rhinaria absent. Rostrum reaching beyond metacoxae. Rostral segments IV + V (0.12–0.16); usually with 4 setae in addition to those at the apex. Length of metatibiae, 0.82 (0.66–0.85). Metatarsomere II, 0.09 (0.08–0.10). Siphunculi, 0.34 (0.27–0.38). Siphunculi with strong, coarse imbrications. Cauda, 0.07–0.09, shield-shaped, with usually 1 dorsal preapical and 2 pairs of lateral setae. Dorsum of abdomen sclerotic and rugose.

Alate Vivipara: One specimen. Antennae, siphunculi, cauda, distal ⅔ of femora, tip of tibiae and of tarsi dusky.

Antennal segment III, 0.42; IV, 0.25; V, 0.23; VI, 0.11 + 0.34. Secondary rhinaria on III, ca. 30; IV, ca. 10; V, 0. Rostral segments IV + V, 0.14. Metatibia, 0.97. Metatarsomere II, 0.10. Siphunculi, 0.26, with imbrications, shaped similarly to those of apterous viviparae. Cauda, 0.07, shield-shaped with apparently 2 pair of lateral setae.

Types: There are 4 slides marked paratype in the United States National Museum. One slide has 3 apterous viviparae. The 1 at the top of the slide, which has 1 complete antenna is here designated lectotype. Data on slide, "*Carolinaia modestus, Polytrichum commune*, June 23, 1925, St. Paul, Minnesota, F. C. Hottes." Paratype, F. C. Hottes.

Comments: *Polytrichum commune* Hedw. appears to be the most common host for this aphid. We have seen specimens from California (R. C. Dickson), Minnesota and North Carolina in the United States and Caddy Lake, Manitoba, Canada. It has been recorded from Aus-

tria, England, Germany, Greenland, Iceland, the Netherlands and Scotland.

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References

Literature references are in "Bibliography of the Aphididae of the World" by Clyde F. Smith. North Carolina Agricultural Experiment Station Tech. Bull. No. 216, 1972.